SUMMARY OF JUNE 26, 2002
TECHNICIAL SYMPOSIUM: MARINA FUELING SYSTEM DESIGN, CONSTRUCTION, AND OPERATION

State Water Resources Control Board (SWRCB) staff convened a technical symposium on marina fueling system design, construction, and operation to augment the work completed on the Marina Fueling Facility (MFF) Project. The purpose of the symposium was to provide a forum for the exchange of technical information on new and innovative marina fueling system material and design concepts related to leak prevention and spill containment. Fuel system manufacturers, contractors, service technicians, owners, operators, inspectors, and other interested parties were invited to attend the symposium.

The MFF Project is a follow-up to the Report of the State Water Resources Control Board's Advisory Panel on Fueling and Refueling Practices at California Marinas (published in 1999). As part of the MFF Project, three tasks are underway: development of a material and design standard; MFF design and construction database; and evaluation of consolidated MFF regulations.

Marina Fueling Facility Project Speakers

Shahla Farahnak, State Water Resources Control Board. Ms. Farahnak opened the symposium with a discussion of the overall goals of the MFF Project and symposium.

Karen Clementsen, Regional Water Quality Control Board, Redding Office. Ms. Clementsen reviewed her findings of MFF inspections from the early 1990's and her work on the 1999 Report of the State Water Resources Control Board's Advisory Panel on Fueling and Refueling Practices at California Marinas.

Laura Chaddock, State Water Resources Control Board. Ms. Chaddock presented information on MFF project goals and recent findings of MFF inspections statewide. Ms. Chaddock also discussed ideas and tools for the development of a comprehensive MFF regulatory program that would allow consistent implementation of protective standards.

Maggie Carroll, Underwriters Laboratories (UL), Marina Fueling Systems Project Manager. Ms. Carroll reviewed development and general content of standards, UL 2248: Marina Fuel Storage, Piping, and Dispensing System, and UL 2405: Aboveground Secondarily Contained Piping for Flammable Liquids.

Industry Speakers

Bob Machmer, Total Containment. Mr. Machmer presented information on Total Containment Marinaflex Piping. Marinaflex is a jointless secondarily contained piping system.

Ken Hatch, CRI Recycling. Mr. Hatch presented information on services offered for recycling of absorbent materials.

Jeremy Moses, Advanced Polymer Technology (APT). Mr. Moses presented information on APT metallic ducted piping with flexible entry boots. APT also offers pipe fittings and containment sumps.

Peter Sokoloff, Sunbelt Industries. Mr. Sokoloff presented information on the FCI Mariner System. The FCI Mariner System is a secondarily contained fueling system that is adjustable for fluctuations in water levels.

Sharon Halvorson, Fluid Systems. Ms. Halvorson presented information on bilge water pump out systems.

Attendee Comments and SWRCB Follow-up

- **ATTENDEE:** Fuel release data should be more conclusive. Specifically, data should distinguish between fuel releases from boat fueling operations and releases from the fueling system itself.
- **SWRCB:** SWRCB fuel release data is based on what is reported to the Office of Emergency Services (OES). Information reported to OES does not always identify the source of fuel releases. Consistent with what is reported to OES, our data collection efforts categorize unidentified sources of fuel releases as 'unknown' or 'other'. In addition, it is our observation that many fuel releases are not being reported because of the failure to comply with reporting requirements**.** We also plan to research and evaluate releases at MFFs that are reported to the Regional Water Quality Control Boards.

- **ATTENDEE:** A MFF owner pointed out that OES has indicated that small fuel releases do not need to be reported.
- **SWRCB:** We plan to follow-up with OES to discuss spill-reporting requirements.

- **ATTENDEE:** Better definition of fuel spill/release is needed.
- **SWRCB:** Under existing law, any quantity of waste, including petroleum products, released into any surface water or groundwater within the state is considered a "discharge" under the Porter Cologne Water Quality Control Act. (Wat. Code, §§ 13000 et seq.) In addition, any spilling, leaking, emitting, escaping, etc. of a hazardous substance from an aboveground or underground storage tank (UST) into or on the waters of the state, the land, or the subsurface soils is considered a "release" under Chapters 6.67 and 6.7 of the Health and Safety Code. Existing law varies with respect to when a release or discharge must be reported depending on the source of the release. Releases of waste from aboveground storage tanks and other discharges to surface and groundwater must be reported if the quantity of the substance released is one barrel (42 gallons) or more. (Health & Saf. Code, § 25270.8; Wat. Code, § 13272.) All releases of hazardous substances from USTs must be reported regardless of quantity. (Health & Saf. Code, § 25295; Cal Code Regs., tit. 23, § 2652.) The SWRCB will consider whether a single reporting requirement should be developed for any release or discharge that occurs at a marina fueling facility.

- **ATTENDEE:** Interest was expressed in who is fueling water craft, employee or boat owner, to evaluate which type of fueling is more prone to spills and overfills.
- **SWRCB:** This information was not collected during our inspection of MFFs, as it extends beyond our jurisdiction. This information may be of interest to determine

when fuel releases are more likely to occur (i.e. when a boat owner fuels watercraft or when a trained employee fuels the watercraft).

- **ATTENDEE(S):** Concerns with the number of solenoid valves (SVs) outlined in draft UL 2248. The four main comments include: (1) if the intent of the standard is to prevent fuel leakage, do not introduce more connection points with the SVs, (2) install SV's at transition points in the piping instead of every 40 feet, (3) SVs are not well designed (if one fails the entire fueling system shuts down), and (4) the cost benefit if solenoid valves every 40 feet should be re-evaluated. A suggestion was made to evaluate the fuel volume, not piping length, for solenoid placement.
- **SWRCB:** SWRCB staff will work with UL and the UL Ad-Hoc Committee to evaluate the distance of solenoid valve placement, by looking at the benefit of solenoid valves versus additional piping connections. Evaluation of fuel volume, overall piping length and natural transition points will be considered.

- **ATTENDEE:** The requirement for leak detection every 20 feet creates a difficult design. Some consideration should be given to systems that slope to a low point that is monitored.
- **SWRCB:** SWRCB staff will work with UL and UL Ad-Hoc Committee to evaluate how system design may provide alternative methods of leak detection.

- **ATTENDEE:** Perform a cost benefit analysis of implementing the UL standard.
- **SWRCB:** Although a cost benefit analysis is not required during the regulatory process, the SWRCB is required to consider and document fiscal and economic impact of implementing new regulations requiring an upgrade.

- **ATTENDEE:** Concern regarding lack of alternatives for site specific-conditions that could limit construction/upgrade of a marina fueling system. Allow agencies having jurisdiction to evaluate alternatives for site-specific conditions not addressed in the standards.
- **SWRCB:** The SWRCB will consider authorizing local agencies to authorize limited construction and design deviations when site-specific conditions warrant it. Any deviations would be expected to provide equivalent environmental and safety protection.

- **ATTENDEE:** Nozzles without hold open latches are of concern. During the fueling of large water craft, an employee or boat owner using a nozzle without a hold open latch has to stand at the nozzle breathing fuel vapors for up to 30 minutes.
  SWRCB: Fuel nozzles without a latch open device are currently required by the National Fire Protection Association. Code consistency is an essential element of the MFF Project and UL standard development; therefore, following existing code requirements is necessary.

- **ATTENDEE:** Marina owners expressed concern regarding the cost of fueling system upgrades, possibly resulting in marina fueling system closures. A loss in marina fueling services may result in an increased use of gas cans by boat owners. Questions regarding phase-in dates for compliance with the standards were also raised.

- **SWRCB:** SWRCB staff are also evaluating: (1) the availability of potential upgrade funding sources, (2) fueling system upgrade costs, and (3) the use of gas cans by boaters. SWRCB staff are also evaluating implementation of environmentally protective marina fueling systems. The implementation of protective standards for new systems, and phase-in of standards for existing systems will be determined during the regulatory process.

- **ATTENDEE:** Commented on inspector and marina owner/operator knowledge of marina fueling systems. Improvements need to be made towards inspector's technical knowledge, and improved fueling system maintenance is needed by owners/operators.
- **SWRCB:** SWRCB staff agree that technical and compliance training specifically geared towards marina fueling system construction, design, and operation are needed. SWRCB staff will work with inspectors and owners to evaluate the type and intensity of training is needed.